

REMARKS

Reconsideration is requested.

A further copy of the Tables requested by the Examiner is attached. The undersigned regrets any inconvenience caused by the earlier incomplete submission. The Examiner is requested to contact the undersigned if anything further is required in this regard.

Claims 49 to 51, 53 and 55 to 64 have been canceled, without prejudice. New claims 65 to 76 have been added and are pending.

The applicants submit that claims 65-76 correspond to the now-canceled claims, as follows: previous claim 57 relates to claims 65 and 69; previous claim 58 relates to claims 66 and 70; previous claim 59 relates to claims 71 and 67; previous claim 60 relates to claim 73; previous claim 61 relates to claim 74; previous claim 64 relates to claims 72 and 68; previous claim 62 relates to claim 75; and previous claim 63 relates to claim 76.

Claims 57, 59 and 64 have been rewritten to include a recitation regarding purity. The bases for the term "immune response" can be found in the description as filed, for example on page 11 lines 3 and 23, page 25 line 9, and page 27 line 9. Inadvertent typographical errors have been corrected above, such as, for example, "Env 178" of now-canceled claim 53 has been recited as "Env17B", and "E2-178" as "E2-17B".

Support for the same may be found, for example, on page 22 lines 22-23 (SEQ ID NO 83) of the originally-filed application.

The Section 112, first paragraph, rejection of claims 49 to 51, 53 and 55 to 56 is moot in view of the above. The subject matter of now canceled claims 49 to 51, 53, and 55 to 56 has not been recited in the added claims, to advance prosecution. The applicants disagree with the Examiner's position in this regard, however the application has been amended to advance prosecution and obviate the Section 112, first paragraph, rejection.

The Section 102 rejection of claim 58 over any of DeLeys (WO 93/18054), Houghton (EP 388232) or Miyamura (EP 537626) is moot in view of the above. The applicants note the Examiner indicates an alignment is provided with the Office Action however none was received. In any event, the presently claimed invention is directed to a composition comprising at least one specifically recited E1 or E2 peptide of a defined length and structure. As the Examiner's previous rejections of claim 58 appear to be related to a peptide the Examiner interpreted as containing (i.e., comprising) more than the recited sequence, the above amendments are believed to clarify the claimed invention and define over the cited art. New claim 66, which is similar to now canceled claim 58, is submitted to be patentable over the cited references.

The Section 102 rejection of claims 57 and 59 to 64 over Ralston (U.S. Patent 6,074,846) is moot in view of the above. The pending claims are submitted to be patentable over Ralston as the cited reference relates to asialoglycoproteins HCV E1 and E2. The applicants submit that the cited document teaches the use of complete

HCV E1 and/or E2 proteins, as shown for example at column 3, lines 28 to 48 and column 5, lines 51 to 64. The Examiner in fact has cited passages that specifically refer to HCV E1 and/or E2 particles, as described in the present specification. The subject matter disclosed in the cited document does not relate to the specifically purified HCV E1 and HCV E2 proteins and/or peptides of the presently claimed invention. The applicants respectfully submit the claimed invention, relating to proteins that are at least 80% pure, are not anticipated by the cited Ralston patent.

The Section 102 rejection of claims 57 and 59 to 64 over Brechot (U.S. Patent 5,866,139) is moot in view of the above. The presently claimed invention is submitted to be patentable over Brechot and the Examiner is requested to consider the following in this regard.

The applicants respectfully submit that Brechot relates to HCV E1, which is the name of the French isolate, rather than the HCV E1 envelope protein. See, column 1, lines 51 to 53 of the cited patent. The Examiner specifically refers to claims 7 and 12 and SEQ ID NOs:3, 5 and 7 of Brechot. SEQ ID NO:3 of Brechot is submitted to span amino acids 158 to 324 and be directed to a part of the core and the HCV E1 envelope proteins. The applicants submit SEQ ID NO:5 of Brechot spans amino acids 334-737 which is part of the E1 envelope protein and E2 envelope protein. The applicants also believe that SEQ ID NO:7 of the cited document spans amino acids 1454-1767, which is not an E1 or E2 envelope protein. Moreover, the cited claims of Brechot are submitted to be best exemplified by claim 7 which is directed to "an immunogenic composition comprising a purified HCV E1 peptide, wherein said peptide has an amino acid

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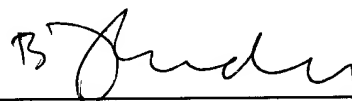
sequence selected from the group consisting of: (a) SEQ ID NO:3; (b) SEQ ID NO:5; and (c) SEQ ID NO:7". These recited sequences will be understood by one of ordinary skill in the art to require the entire sequence, which are submitted to differ from the HCV E1 and/or E2 proteins of the presently claimed invention. The applicants respectfully submit therefore that the pending claims are patentable over Brechot as the cited patent fails to teach each and every aspect of the presently claimed invention.

In view of the above, the applicants respectfully submit the claims are in condition for allowance and a Notice to that effect is requested.

Respectfully submitted,

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